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By Car: Carrying Modern Society

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Introduction

The proliferation of the 'private car' as a mass medium of transportation has been one of the most momentous developments of the twentieth century. In bringing a previously unimagined degree of personal auto-mobility to the populations of industrialised societies, the car is a highly distinctive mode of transport. Over the last hundred years the motor car has developed from being an unreliable and extremely expensive hobby for the rich to being part of the normal equipment for modern living in industrialised societies - it has become an ordinary object that is consumed through routine and often daily use. During the last fifty years it has facilitated and encouraged the creation of a mass culture increasingly organised around large-scale physical mobility, with enormous social consequences. The degree of mobility which is now taken for granted in the developed world is quite unprecedented in human history, yet in contrast to other culturally-transforming technologies, notably mass television and electronic information processing, the apparently irresistible rise of the car has gone virtually unnoticed by sociologists. No longer is being the owner of a car a sign of status or of special interest. Like televisions, telephones, central heating and inside toilets, cars are just part of the equipment of modern living that is more noticeable when absent than when present.

The aims of the present paper, then, are quite simply to highlight the disturbing lack of attention which has up until now been paid to cars and their consequences by academic sociologists, and to raise some pertinent issues which arise from the consideration of a culture increasingly shaped by the presupposition of automobility. We want to begin to approach the question of how the car become so deeply entrenched in our society.

Cars as seduction and repulsion

Driving cars is clearly more than transporting the human body from here to there. As Urry points out, "[m]ost car journeys now made were never made by public transport" (1999: 29). This means that cars are not transport devices that can simply be substituted for by other means of transport. Baudrillard reminds us that:

> **Travel is a necessity, and speed is a pleasure. . .**
> **Movement alone is the basis of a sort of happiness but**
> **the mechanical euphoria associated with speed is**
> **something else altogether, grounded for the imagination**
> **in the miracle of motion. Effortless mobility entails a**
> **kind of pleasure that is unrealistic, a kind of suspension**
> **of existence, a kind of absence of responsibility.**
>
> **(Baudrillard 1996: 66)**

The pleasure in driving cars, even being driven in them, is not only to do with functionality as transport but also what interaction with that particular object can do. Speed can be enjoyed as a mystical experience, as competition and as overcoming natural and machinic forces (Mcnaughton and Urry 1998: 208-210). It is a pleasure that can even be enhanced by interaction with other cars in traffic, it is certainly a pleasure that can be enhanced by having others observe one's pleasure. Looked at this way, it is not difficult to understand the 'joyrider' who steals another person's car and then drives it recklessly, often with passengers, often through their own community. Showing off, gaining status through identification with a status object may be partial motivations. Challenging those distinctions based on class, locality, ownership and possession may be influences. But above all, the seductive pleasure of driving a car is part of what 'joyriding' is about. O'Connell (1998) reminds us that joyriders were originally young men who 'borrowed' cars without permission to gain

'respect' and to attract the attention of young women (1). Because the cars were later abandoned and recovered they were not technically 'stolen' and those who took them could avoid prosecution until the offence of 'taking and driving away' was introduced in the 1930 Road Traffic Act. It did little to discourage offenders. Pleasure in the car was not only in the driving but in the seductive power it gave to those who possessed it (2).

The technological development of the car can be understood as to do with its *seduction* (Baudrillard 1990: 119-120). The history of car production is linked to the difficulties of reproducing the quality of the hand-built car on mass production lines (see for example Forty 1990) but the basic structure and capacity of the car has changed little in the last hundred years. What has happened is a series of incremental improvements to aspects of the basic vehicle such that each new 'model' is slightly more attractive than previous models. Manufacturers are constantly trying to anticipate what will make their cars more seductive than others - but there is never a sure thing. Initial improvements were largely mechanical, reducing noise, increasing speed. Then changes to the body work became far more significant in seducing potential owners (see Gartman 1994 for a detailed history of styling and design). In recent years 'functional features' have become more important, including the safety of occupants in the event of a crash and the recycleability of the components and fuel efficiency of the engine. The fading of the importance of the aesthetic appearance of cars suggests that they are no longer objects from which there is much social status to be derived. Seduction is much more likely to be through a blend of subtle styling, manufacturing precision, internal comfort and reliable and powerful engineering. Modern cars that make a special claim to aesthetic appeal often do so by referring back to previous designs from a time when aesthetics were more important. So, for example, the BMW Z3 recreates many design features of the classic two seater sports car, including many BMWs from an

earlier era; soft top, long low body, bonnet extending in front of the driver, distinctive grills, wire wheels, curving lines (3).

As well as being seductive the car can repel. In its early days it was recognised by those not seduced by its charms as dirty, dusty and noisy as well as dangerous to people and livestock. It damaged roads covered with gravel for horses and carts and forced pedestrians onto pavements. It's more recently identified offences include polluting the air with lead, carbon monoxide, particulates and other carcinogens, and polluting the landscape and cityscape through the building of roads and facilities designed for the car (suburbs, out of town malls, industrial estates). Concerns about health and environmental risks began to replace earlier fears about the volume of road accidents (Altshuler *et al*. 1984; Liniado 1996: 47-72) to sustain an 'ambivalence' about the car (Mcnaughton & Urry 1998: 237-8). The result is the delivery of too many people to certain places and, as Sachs argues, it begins to bring about a disenchantment with the car:

> **What most damages the automobile's attractiveness is its success. Mass motorization itself is responsible for bringing experiences in tow that undermine enthusiasm for the automobile.**
>
> **(Sachs 1992: 175)**

The beauty spot looses some of its appeal when it becomes crowded and the open road that promises freedom becomes a nightmare when it becomes unavailable for driving through repair works or simply too much traffic.

The car and mass consumption

In Britain, it was the inter-war period which initiated the 'first era of mass motoring', with the numbers of private cars rising from 100,000 in 1918 to over two million in

1939 (O'Connell 1998: 19). By the 1960s having a car was common place and no longer itself a mark of social status although the *type* of car driven continued to be an indicator of distinction and social identity (Shove 1998: 3-4). Since then the UK population increased moderately from 52.9m in 1961 to 59m in 1997 (*Social Trends* Vol. 29, 1999: 30), but the number of cars licensed in the same period almost quadrupled from 6.1m to 22.8m annually (*Social Trends* Vol. 13, 1983: 124; Vol. 29, 1999: 198). Fewer than one in three households (31%) had regular use of a car in 1961; by 1997 this had risen to 70%, with a quarter of all households having two or more cars.

By the late 1980s the car had come to occupy a central place in everyday social life and expenditure on motoring had become the third largest item of household expenditure. No other category of household expenditure exceeds 10% of the total and the proportion spent on motoring continues to rise relative to housing and food:

[insert Table 1 here]

However well-intentioned, proposals to reduce car usage often neglect the effect on employment and the extent to which the car has become an integral part of the national as well as the household economy. The manufacture of cars requires materials, services, and labour but local economies are also heavily dependent on the sale, maintenance, repair and decoration of cars (Graves-Brown calculates that car related activity accounts for over 10% of businesses listed in *Yellow Pages* - 1997: 67). The provision of roads and ancillary services - such as mandatory accident insurance - create work in both the public and private sectors (Shove 1998: 8-9). Even the huge volumes of crime associated with cars and the consequent police investigations and legal proceedings, or the deaths (more than 70 each week in the UK in 1997) and serious injuries arising from accidents are, 'social facts' (Durkheim 1964) of considerable sociological and economic significance. Such facts

shape the development of institutions (such as the police, health care, and the law) and generate a huge demand for goods and services.

Sociology and the car

The social and political problems caused by mass car use are unlikely to be alleviated swiftly or simply (the category 'car users' now includes the vast majority of the electorate, and so cannot be easily demonised or antagonised). In 1986, Hawkins concluded that in America sociologists had generally ignored the impact of the automobile (1986: 61). Since then, unlike broadcast and information technologies, the private car has been almost completely neglected in the sociological literature on both sides of the Atlantic. In general, sociologists displayed what Hawkins called a "pedestrian approach" (Hawkins 1986: 66) condemning the car as a machine which could only accelerate the decline of community and the decay of social solidarity, both facilitating and symbolising "the North American flight into privacy" (John O'Neill quoted in Hawkins 1986: 63). Hawkins points out that the lack of academic interest in the car led to its history initially being written largely by and for enthusiasts, but more recently cultural historians have begun to examine the rise of the car (Flink 1988; Sachs 1992; O'Connell 1998). The traditional account of 'car culture' focusing on the impressive and rapid development of car production in terms of techniques, organisations and marketing (e.g. Flink 1975) has more recently been supplemented by studies such as Gartman's (1994) account of the cultural impact of the developing symbolic form of the car. In a different vein Bert Moorhouse's (1991) study of 'hot rod' car culture charts the enthusiasm for building, racing and showing hot rod cars that brings a sense of pride, identity and fulfilment that is largely unavailable in industrial employment. However, it is the industrial production of cars that has attracted the most sociological interest, although it has been the autoworker rather than the automobile that has been the focus. Beynon (1973) explored the working life of those who were employed 'on the line'. For Chinoy

(1955 - see also Moorhouse 1983), the lives of automobile workers exemplified the ways in which industrial work corrodes 'the American dream', and it was a British car plant - Vauxhall (now General Motors), in Luton, - which provided the setting for the studies by Goldthorpe *et al*. (1968) of 'affluent workers' and their increasingly privatised lifestyles. In sociology, car production has often been viewed both as characteristic of production generally in modern societies - Fordism - and indicative of the change to post-modern - or post-Fordist - societies (e.g Harvey 1989; Crook *et al*. 1992).

The dialectic of car culture

The sides in political disputes about the benefits and disadvantages of cars map onto other social divisions of class, gender, rural and urban dwellers, and, of course, users and non-users. From a more specifically sociological perspective, John Urry has emphasised the impact of 'automobility' which:

> **… reconfigures civil society, involving distinct ways of dwelling, travelling and socialising in, and through, an automobilised time-space.**
>
> **(Urry 1999: 6)**

Urry identifies six components of automobility, or the 'social and technical system of the car': manufactured object, individual consumption, machinic complex, quasi-private mobility, culture, and environmental resource-use (Urry 1999: 3). He emphasises the extent to which car culture is fuelling tendencies towards globalisation but concludes that there is little evidence to suggest that 'virtual' or 'weightless' mobility via television or the internet will replace the demand for real, corporeal, travel (4). Ultimately though, Urry's position rests on a value judgement that everyone, even those who do not or cannot use cars, is forced to live their lives according to the dictates of automobility, which:

> **… coerces people into an intense flexibility. It forces people to juggle tiny fragments of time so as to deal with the temporal and spatial constraints that it generates. It is perhaps the best example within the social world of how systematic unintended consequences are produced as a consequence of individual or household desires, in this case for flexibility and freedom.**
>
> **(Urry 1999: 13)**

This doom-mongering sees the car as trapping people in congestion and a privatised environment with dire consequences for late modernity, including: separating workplace from home, home from shopping and leisure, family members and friends from each other (Urry 1999: 13). But these are processes more deeply embedded with the development of the capitalist mode of production; they are not simply *caused* by the car and they cannot be unravelled by abandoning the car even if that were a possibility. This rather one-sided view of car use argues that the car reduces 'choice' but it is not clear with what this list of consequences can be compared or what state of affairs would have maintained or expanded choice. Our fundamental point is that as the automobile has become integrated into the lives of most modern people, it has become an ordinary object. Even for those who do not own or have continuous access to one, 'the car' as an object continually shapes our lives through its pervasive and multi-faceted effect on our culture. Moreover, not the least of the car's attractions is its capacity to empower, and to have a positive impact on sociality. It has become a key feature of modern culture because of what it can do for people.

Sociality with the car

Karin Knorr Cetina calls for "an expanded conception of sociality and social relations" such that "individualization then intertwines with objectualization - with an increasing

orientation towards objects as sources of the self, of relational intimacy, of shared subjectivity and of social integration" (Knorr Cetina 1997: 9). Unusually for a sociologist she is arguing that individuals are not simply embedded in social relations with other human beings but that their identities are at least partially sustained by relationships with objects. Human interaction with objects is not just physical; objects are also appropriated at the level of knowledge of their properties and limitations and how they will meet human wants (Knorr-Cetina 1997: 12). Knorr Cetina's examples are from the history and sociology of science but we can understand the car as a technical device with a material form as well as a form as a knowledge object.

Knowledge about a given car or type of car will include which wants the car will satisfy but also what it lacks; how fast, quiet, safe, efficient, cheap, long lasting and so on it might be. Our knowledge of the object establishes a social relationship with it and a context that will shape any subsequent physical interaction with it. The structure of users' wants will vary according to social and historical circumstances and in relation to the lacks of an existing series of objects (5). Expert knowledge will also respond to expressed wants and the perceived lacks in objects to produce new, 'better' objects. However the major features of sociality with objects are not to do with ideal wants and lacks. The flow of everyday relationships between users and objects such as motor cars is rather more pragmatic; that a particular car falls short of what I *want* does not stop me driving it - if it gets me to the shops and back.

Our routine collaborative action with complex objects like cars can lead to a sense of 'solidarity' (Knorr Cetina 1997: 18) with them which may take the form of giving the car a name, talking fondly about its 'behaviour' - even talking directly to it and feeling proud of or disgusted with it. For most people though, any affection for cars will come behind that for children, lovers, partners, friends and pets. Knorr Cetina suggests that sociality of this sort is "somehow linked to knowing the objects" (1997: 20). As with a

human being, the way we know a complex object like a car may be through both its familiar characteristics and its unpredictability - sometimes it seems to have a 'will of its own'. Nonetheless, cars are ordinary and unremarkable objects for most people and what is distinctive about the place of cars in modern society is their impact on sociality between human beings. What is sociologically interesting about material objects such as cars is how they become embedded in the flow of social life, enabling us to do what we do.

Sociality through the car

Cars are often desired, it is claimed, because they emphasise the individuality and self-mastery of their owners, freeing them from the constraints of social means of transport (Sachs 1992: 92-101). This anti-social relationship with the car is reinforced by its polluting effects which are always a disbenefit for the rest of society (Altshuler *et al*. 1984: 47-59; Liniado 1996: 47-72; Macnaughten and Urry 1998: 238). It is not surprising then that the car is seen as a 'Frankenstein-monster' that extends individual freedoms always at a social cost (Shove 1998: 9; Urry 1999: 14). But cars in modern society are not merely an indulgence, toys or playthings that in a utilitarian perspective could be done without, neither do they in any simple sense lead to privatisation of the individual. Different types of activity involve different groups of people who are in different places; cars extend sociality precisely by allowing us to organise the continuity between these different loci of sociality. When cars are no longer used for 'sport' or 'recreation', as they were when driving was seen as good for one's health and wellbeing (Sachs 1992: 5), then they extend sociality by bringing individuals together in groups that would otherwise occur much less frequently if at all. Distances between people are shrunk and the time taken for communications to be made are reduced (Sachs 1992: 183-187). The contemporary location of shops, schools, places of work, leisure facilities and other services in relation to where people live, often makes using the car much more convenient if not inevitable -

especially if babies, shopping or other items are to be carried (Shove 1998: 6-7). Cars allow the complicated scheduling of daily family routines that often involve both partners being employed. Without the car(s), the pattern of many modern lifestyles would be impractical.

There are of course a number of different vehicles that could link physically separated social contexts (foot, horse, bicycle, bus, tram, train, aeroplane). But the car is an exceedingly flexible vehicle and despite frustrating delays is usually quicker than alternatives for door-to-door mobility. The driver chooses when to depart, the pace of travel and can modulate the time of arrival. If the context involves sociality with a large number of people who are unknown to each other (a shopping centre, the seaside, a concert), the car enables participants to come from very different locations, setting off at different times to be co-present at exactly the same time (the concert) or in a sequence of arrivals and departures around a core time of co-presence (the shopping centre, the seaside). The car promotes sociality through flexibly mixing people from one social context to another but can also increase sociality in transit. This can of course also be seen as promoting private time, time out of sociality in which the driver need not consider their appearance and sustain a 'front' (6). For the solitary driver, the time in the car can be time to think, including talking out loud, to explore emotions (a car is a good place to grieve privately without fear of arousing the sympathy of others), to daydream or fantasise. The car, unlike public forms of transport, provides an outer clothing or mini-environment for 'downtime' from the flow of sociality in peopled contexts (which for many of us include our homes and workplaces). This downtime prepares us to re-enter a social scene when we arrive, refreshed and ready to engage with interactive sociality anew. Public transport (trains, buses etc.) on the other hand has a strict schedule that *requires* continuous co-presence in transit. What is co-experienced beyond the success or

failure of public transport to meet its schedule is a sociality of 'civil inattention' (Goffman 1963: 84) characteristic of being in public.

The private space of the car can however be an ideal situation for intimate sociality (O'Connell 1998: 94; Shove 1998: 2-3). Lovers, couples, friends, families, parents and children can talk in close proximity while the car is in motion. The driver must give some attention to the road and handling the car but the 'surplus attention' of driver and passengers can be given to social interaction. This can even help keep the driver awake or alert because there are relatively few outlets for this attention; the driver cannot engage in hand-eye work other than driving and the vehicle's movement makes activities like reading or writing difficult for passengers. It is difficult to maintain eye contact in a car because everyone faces in the same direction - although the occasional glance may thereby gain more significance - but the close physical co-presence allows body movements and gestures to cue conversation. Even above the noise of the engine, road wheels and wind, a wide range of vocal variation (volume, tone, timbre) can be heard. The intimacy is closer than in most living rooms and is also sustained - one cannot simply walk out on a difficult conversation while the car is moving! Even without conversation, the simple experience of close and continuous co-presence can have an emotional tone - the pleasure or discomfort of being together - which does not have to be excused or explained by any other specific activity. Strangers sharing a car (giving a lift, hitch-hiking) have to manage the intimacy with care, although it may lead to getting to know someone much more quickly than in other 'social' contexts where such a meeting might have originated (at a party, at a club, at work). Unlike public transport both driver and passenger in the private car choose who, if anyone, to share the space with.

A final level of sociality achieved through the car is via mediated forms of communication. The surplus attention of driver and passengers can be given to the radio or to recordings on tape or CD. The aural environment can be excellent, enabling 'in-car-entertainment' that can be pleasurable and absorbing. The unpleasant sounds of the car and traffic can be overlaid with sounds that are socially produced and chosen. The mediated cultural exchange, like the exchange over a mobile 'phone, provides the car user with a form of sociality, albeit not one that involves physical co-presence. Whether it's the news or popular music the car user is engaged with the flow of information and ideas that constitute the culture of their society.

Interaction with the car

We can begin to translate these various forms of sociality with and through the car into potentially researchable forms by exploring how we *interact* with and through the car. The object of the car is external to the human agent who is driver or passenger - although part of the fantasy of J. G. Ballard's *Crash* is precisely about interaction in which car and body leave their marks on each other (Ballard 1995). Driving a car involves interaction between human and machine through the physical movement of limbs which bring about steering, braking, acceleration and gear changing (7). These movements 'instruct' the car to 'act' in certain ways. The driver in turn responds to information from not only his or her sight of the road, but also the information felt through the vehicle and through the components of the vehicle (steering wheel, brake pedal, accelerator pedal, gear lever). The action of the human subject (driver) affects the action of the object (vehicle) and the action of the object feeds back to the subject who responds continuously to bring about the sort of driving that he or she intends (speed, direction, position on the road). For example, the forward inertia of the human body during breaking provides the driver with information about the rate of

braking which is in turn modulated by the pressure of his or her foot on the brake peddle (see Dant 1999: 120-127 for a fuller discussion of interaction with objects).

The human subject has a physical relationship with the object of the car to do with manipulation and operation. But the car that we interact with can become almost like an 'extension' of our body (8):

> **The expert driver when parallel parking needs very little by way of visual clues to back himself into the small place - he 'feels' the very extension of himself through the car as the car becomes a symbiotic extension of his own embodiedness.**
>
> **(Ihde 1974: 272)**

Ihde also points out that we experience the world as a continuation of our interaction with certain types of objects - the blackboard is felt at the end of a piece of chalk, the world of the blind-man at the end of his cane. Interaction with the car forms the sensory experience of its driver and its passengers such that the perceived nature of the world outside the car is transformed. The pothole feels much deeper through poor suspension than it does when stepped over, noise is modulated, air temperature is different, dust, dirt, wind and rain are removed and so on. The world becomes framed and flattened by the shape of the car window, presaging the view of the world through a television screen and related to that other tourist gaze through a camera lens. In the early years of the automobile, this was clearly a great attraction to users who experienced unusual places, the countryside and other sites/sights as images at the windows of cars (see O'Connell 1998; Sachs 1992: 150-160).

Interaction through the car

As the car becomes embodied in the way Ihde describes, it becomes an object *through* which we interact with each other - this is the sphere of action we normally call 'traffic'. Pedestrian traffic has been famously analysed by Goffman using motor traffic as an exemplar of the way such complex interaction is ordered through 'traffic codes' (Goffman 1971b: 5-18). In modern cities there are some pedestrian-only areas but generally foot traffic has to follow and cross roads dominated by cars whose power and mass is physically superior to that of the most powerful and massive human being. The passenger, whether in a car or a bus, is in an intermediary position, not dominating but enjoying the privileges of domination. There are very few people in western industrialised societies who are *always* pedestrians and most of us board a bus or climb into a car and frequently exchange the roles of dominator and dominated. There is a much finer status of power and distinction between automotive road users which is continuously negotiated - although white vans and large lorries do seem to get their own way more often.

The car needs the human agency of a driver to become a danger rather than merely an obstacle but there has been a massive increase in the volume, density and speed of traffic which has brought its own risks (Sachs 1992: 25-31). Nonetheless, what is most remarkable about cars being driven in the presence of other cars is how infrequently they collide. Even as volumes of traffic flow increase and the speed of vehicles increases, there is a continuing reduction in the proportion of collisions and deaths (9). Drivers in general sustain a very high level of skill in driving even when in other respects they will undoubtedly have very variable skills. The co-ordination of limbs to control the car must become unconscious, reading the road and the skill of interacting with traffic must be learnt. But like learning a language, just about every mature human, who has no handicap, can learn to drive a car. Birds and fishes are able to fly and swim in large numbers in very close proximity without colliding - in

cars of course, everything happens much more quickly and the consequences of error are rather more far reaching. While the ability to co-ordinate movement in animals is innate to their species, the human ability evolves according to changing contexts; the building of cities, the development of technologies such as the car, the increase in traffic volume.

Norbert Elias explores the relationship between the progressive reduction in deaths by driving and the civilizing process, the "acquired self-regulation that is imperative of a human being" (1995: 9). Technization, such as the introduction of the automobile, brings a new, decivilizing, dimension into social life and the members of that society have to learn how to live with it. As Elias points out, this learning is in part due to learning how to design and make cars and roads but is also about drivers learning not just how to drive but how to interact with other vehicles:

> **Controlling the car (including maintaining it) is nothing but an extension of the driver's self-control or self regulation. The pattern of self-regulation by a driver at the wheel of his car, however, is determined to a large extent by the social standard that society in every country has developed for the individual self-regulation of the men and women who drive cars.**
>
> **(Elias 1995: 25)**

Society responds to the decivilizing effects of new technology that causes death and injury by introducing laws to regulate usage - for example those to do with licensing drivers and limiting alcohol consumption. But such standard rules and practices become a habit for drivers and "in the end relate to the individual self-regulation by the driver" (Elias 1995: 25). He identifies a parallel between the care taken in

steering the car, and so avoiding killing people, and steering the *self* through society (1995: 28). Using annual statistics of road deaths and car registrations, Elias argues that the interaction of technization and civilization reduces road deaths but at a different rate in different countries that have different cultures and a different place in the evolving process of civilisation. The decline in deaths on the road with the development of the civilising process is not simply to do with technical improvements in roads and cars but also to do with the willingness of drivers to regulate their own driving in the light of others' driving so as to achieve an integrated co-operation.

As well as responding to the presence of other road users and the physical form of the road, the car driver must respond to the signs which have been placed to give information about the road and how it should be used. As Clay McShane points out, traffic lights are systems that "attempt to impose a strong social control over the most fundamental of human behaviors, whether to move or be still." (McShane 1999: 370). Such systems are not 'natural' but have a history and a politics and one of the most noteworthy features of traffic lights is the speed with which they have become a global system, used on roads in very different cultures. Traffic lights developed from the policeman directing traffic at junctions, via a mechanical semaphore system. The first permanent traffic lights, which of course saved on the human labour of stopping and starting traffic, were installed in Cleveland, Ohio in 1914 and the system that included red, yellow and green lights was introduced in 1920. By 1931 much of the United States and the UK had adopted automatic lights and similar systems were being introduced in Stockholm, Tokyo, Spain, Paris and Berlin with encouragement from the League of Nations. It was realised as early as 1923 that 10% of the US population was colour blind and could not adequately distinguish between red and green but it seems that standardisation was more important than technical superiority. Blue and yellow would have been easier for a larger proportion of the

population to distinguish but red and green (derived from maritime signals) remained the standard system (McShane 1999: 382).

Driving in busy traffic involves a large numbers of interactions with other vehicles, all of whom are looking to maximise their chances to make progress within the context of traffic lights and other regulatory systems. Most interactions more or less smoothly follow a set of learnt behaviours to do with rights to proceed and safety margins for road users. Drivers manage more complex interactions, such as letting each other in, by flashing headlights, waving and gesturing and even mouthing words through the windscreen at each other. Similar means of communication are used to express dissatisfaction with another person's driving behaviour - usually to do with them getting in the way or not following the conventions. The car itself provides an *expressive* extension of the driver's body to communicate emotion and anger; hooting the horn, flashing headlights, revving the engine noisily. The tyres can be made to squeal and the movements of the car made jerky and exaggerated, often involving driving faster and closer to the offending car than would normally be recognised as appropriate. The body within the car may also be used; facial expressions, gesticulations, one or two raised fingers and finally, the window may be wound down so that verbal abuse may be hurled.

Conclusions

Writing in 1984 on the "Future of automobility", the report of a four year, seven-nation study from the Massachusetts Institute of Technology, the authors argued that for the next twenty years there were no serious challenges to automobility. The threats from consumption of finite resources and atmospheric pollution were problems that they predicted technological sophistication could keep pace with. Alternative means of transport and communication alternatives to transport would continue to be developed but without threatening the car:

> **… there is no evidence of a shift in mode share away from automobiles in any of the developed countries, and for the longer period under consideration in this study we have found no convincing arguments that probable improvements in service and reductions in costs for competing modes will have any noticeable effect on the purchase and use of automobiles.**
>
> **(Altshuler *et al.*: 1984: 61)**

While their period of projection is only three-quarters of the way through, their prediction seems to be well justified. Even as it changes and develops by becoming smaller, more efficient, using other fuel sources, banned from certain parts of society, the car will remain for the foreseeable future the model of personal mobility in modern societies. Recognition by sociologists of the importance of the car is long overdue; a thoroughgoing sociological analysis of the way that the car is reshaping the society we live in will enhance our capacity to adapt to the changes and steer them rather than be led by the pull of technology or the push of political expediency.

By Car - endnotes

(1) ". . . the pre-1939 joyrider's chosen vehicles do not appear to have been systematically damaged by excessive speeding or dangerous driving as is frequently the case today" - O'Connell 103)

(2) In Finland, still a very rural society, there is a culture of poor young men whose lives become entwined with old cars that they renovate, live in and for, and drive, often drunk and dangerously. Research on this phenomena is currently being undertaken by Heli Vaaranen (personal communication 23.10.99).

(3) BMW's brochure traces the development of the 'roadster from the 1936 BMW 328, through the 1956 BMW 507 to the 1988 Z1 which it calls the "father" of the 1995 Z3. See Dant 1999 158-161 on aesthetics and objects including the BMW Z3.

(4) Confirming a rather earlier analysis by MIT's International Automobile Program (Aultshuler et al. 1984: 61).

(5) There is of course a whole 'material discourse' that helps to specify knowledge objects, from engineers' drawings and specifications, through advertisements and images, to test reports, consumer surveys and the object in the showroom (see Dant 1999: 107, 126-7, 158-160).

(6) Goffman 1971a: 32 - except of course in stationary traffic when 'offstage' behaviour (nose-picking, exaggerated facial expressions, talking aloud, singing and so on) may be inadvertently revealed to others.

(7) Urry refers to the car/driver as a 'hybrid' (1999: 19) as it is sometimes used in Actor-Network-Theory. However, as cars are at the moment, there is a very clear

division of labour between the car and the driver such that the car provides motive power and the driver manages the place of the vehicle in traffic.

(8) See also McLuhan (1964: 217).

(9) In the UK in 1981 there were 6,000 road accident deaths but in 1997 only 3,800. There has been an reduction from 67 fatalities/serious injuries per billion passenger km in 1986 to 42 per billion in 1996 (*Social Trends* 1999, Vol. 29: 203).

Table 1: Expenditure on commodities or services as % of total expenditure

	1987	1997-8
Food	19.0	17.0
Housing	16.1	15.1
Motoring expenditure	12.6	14.2

(Source: *Social Trends*, Vol. 29 1999: 129)

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